l/ccjl/pnas-36::
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UI - GB701
CO - cf Bob Wright
AU - Matagne RF
AU - Remacle C
AU - Dinant M
TI - Cytoduction in Chlamydomonas-Reinhardtii.
AD - RF Matagne, Univ Liege, Dept Bot, B22,
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AB - After conjugation between Chlamydomonas gametes of opposite mating type, a transient dikaryon is formed. The two nuclei fuse within 4-6 hr after mating. The young diploid zygote differentiates into dormant zygospore competent to complete meiosis, or more rarely (2-10% of cases) it undergoes mitosis to produce a stable diploid progeny. We here bring genetical, biochemical, and cytological evidence that among the mitotic zygotes, a large proportion of them undergo cytokinesis without fusion of the nuclei - a process that has been termed "cytoduction." By using appropriate genetic markers, haploid cytoductants that possess the nuclear genotype of one parent and the chloroplast marker of the other parent can easily be isolated. Genetical analysis and hybridization experiments moreover show that many haploid cytoductants transmit the chloroplast DNA molecules of both parents and that, as in diploids, these DNA copies occasionally recombine. This process of cytoduction extends the life cycle of Chlamydomonas and provides new tools for its genetic analysis.
SO - Proc Natl Acad Sci USA 1991 AUG;88(16):7447-7450

JUL - 2 1993

Dear Dr. Matagne

Your paper reminded me of some similar work on yeast about 35 years ago.

Bob Wright was a brilliant Ph.D. student from Australia, for whom I had great admiration. Unfortunately his career was cut short by an auto accident on an icy road en route to visit C.C. Lindegren.

Best wishes

John Lederberg

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